

## **AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

### **LISTING OF CLAIMS:**

---

B 1. (Currently Amended) Method for controlling ~~system parameters, in particular for controlling the~~ a voltage applied to a piezoelectric elements element (10, 20, 30, 40, 50, 60) within a circuit (A) for charging and discharging the piezoelectric elements element (10, 20, 30, 40, 50, 60), ~~characterized by comprising:~~  
modifying ~~at least one control parameter for the control of a system parameter, in particular~~ a target voltage for the voltage applied to a the piezoelectric element (10, 20, 30, 40, 50, 60), in view of at least one systematic error occurring during a first control procedure of the ~~system parameter~~ voltage applied to the piezoelectric element to obtain a ~~corrected control parameter~~ a target voltage for a second and/or a further control of the ~~system parameter~~ voltage applied to the piezoelectric element.

2. (Currently Amended) The method of claim 1, ~~characterized in that~~ comprising:

- a) a system parameter, in particular the voltage across a piezoelectric element (10, 20, 30, 40, 50 or 60), is modified according to a predefined target value, in particular a target voltage ( $U_{\text{target}}$ );
- b) the resulting value of the system parameter is measured by measuring means (600, 610; D, E);
- c) the measured value is compared to the predefined target value by comparison means (D, E); and
- d) a target value for a further modification of the system parameter is modified in consideration of detected differences between the measured value and the first predefined target value.

3. (Currently Amended) Method ~~as according to claim 1, for controlling~~ system parameters, in particular for controlling the voltage applied to piezoelectric elements (10, 20, 30, 40, 50, 60) within a circuit (A) for charging and discharging piezoelectric elements (10, 20, 30, 40, 50, 60), comprising modifying at least one

control parameter for the control of a system parameter, in particular a target voltage for the voltage applied to a piezoelectric element (10, 20, 30, 40, 50, 60), in view of at least one systematic error occurring during a first control procedure of the system parameter to obtain a corrected control parameter for a second and/or a further control of the system parameter;

characterized in that wherein

- a1) the system parameter is modified in accordance with at least one control parameter corresponding to a target value;
- a2) the modification of the system parameter is performed in a plurality of discrete steps;
- a3) the modification procedure is controlled by means of measuring and comparing any obtained value of the system parameter to the target value by measuring means and comparison means, respectively;
- a4) the modification procedure is terminated as soon as the obtained value equals the target value by terminating means (E);
- b. the obtained value of the system parameter is re-measured after the modification procedure is terminated by measuring means (D, E; 600, 610); and
- c. the re-measured value of the system parameter is compared as resulting system parameter to the target value by comparison means (D, E).

4. (Currently Amended) Method ~~as according to claim 1,~~ for controlling system parameters, in particular for controlling the voltage applied to piezoelectric elements (10, 20, 30, 40, 50, 60) within a circuit (A) for charging and discharging piezoelectric elements (10, 20, 30, 40, 50, 60), comprising modifying at least one control parameter for the control of a system parameter, in particular a target voltage for the voltage applied to a piezoelectric element (10, 20, 30, 40, 50, 60), in view of at least one systematic error occurring during a first control procedure of the system parameter to obtain a corrected control parameter for a second and/or a further control of the system parameter;

characterized in that wherein detected differences between the measured value and the target value are taken into consideration by means of adding an offset to any desired target value for a further modification procedure.

5. (Currently Amended) Method ~~as according to claim 1~~; for controlling system parameters, in particular for controlling the voltage applied to piezoelectric elements (10, 20, 30, 40, 50, 60) within a circuit (A) for charging and discharging piezoelectric elements (10, 20, 30, 40, 50, 60), comprising modifying at least one control parameter for the control of a system parameter, in particular a target voltage for the voltage applied to a piezoelectric element (10, 20, 30, 40, 50, 60), in view of at least one systematic error occurring during a first control procedure of the system parameter to obtain a corrected control parameter for a second and/or a further control of the system parameter;

~~characterized in that~~ wherein the offset is calculated as the absolute or relative difference between the first target value and the corresponding obtained value as measured.

6. (Currently Amended) Method ~~as according to claim 1~~; for controlling system parameters, in particular for controlling the voltage applied to piezoelectric elements (10, 20, 30, 40, 50, 60) within a circuit (A) for charging and discharging piezoelectric elements (10, 20, 30, 40, 50, 60), comprising modifying at least one control parameter for the control of a system parameter, in particular a target voltage for the voltage applied to a piezoelectric element (10, 20, 30, 40, 50, 60), in view of at least one systematic error occurring during a first control procedure of the system parameter to obtain a corrected control parameter for a second and/or a further control of the system parameter;

~~characterized in that~~ wherein the offset is a function of an averaged and filtered measured voltage ( $\langle U_{\text{actual}} \rangle$ ) of piezoelectric elements (10, 20, 30, 40, 50, 60) and an averaged and filtered target voltage ( $\langle U_{\text{target}} \rangle, \langle U_{\text{offset,p}} \rangle$ ) for said piezoelectric elements (10, 20, 30, 40, 50, 60).

7. (Currently Amended) Method ~~as according to claim 1~~; for controlling system parameters, in particular for controlling the voltage applied to piezoelectric elements (10, 20, 30, 40, 50, 60) within a circuit (A) for charging and discharging piezoelectric elements (10, 20, 30, 40, 50, 60), comprising modifying at least one control parameter for the control of a system parameter, in particular a target voltage for the voltage applied to a piezoelectric element (10, 20, 30, 40, 50, 60), in view of at least one systematic error occurring during a first control procedure of the system

parameter to obtain a corrected control parameter for a second and/or a further control of the system parameter;

~~characterized in that~~ wherein the averaged and filtered target voltage ( $\langle U_{\text{target}} \rangle$ ,  $\langle U_{\text{offset,p}} \rangle$ ) of piezoelectric elements (10, 20, 30, 40, 50, 60) is a function of an averaged and filtered voltage offset value ( $\langle U_{\text{offset,p}} \rangle$ ) and an averaged and filtered initial target voltage ( $\langle U_{\text{target}} \rangle$ ) for the piezoelectric elements (10, 20, 30, 40, 50, 60).

B1  
8. (Currently Amended) Method ~~as according to claim 1,~~ for controlling system parameters, in particular for controlling the voltage applied to piezoelectric elements (10, 20, 30, 40, 50, 60) within a circuit (A) for charging and discharging piezoelectric elements (10, 20, 30, 40, 50, 60), comprising modifying at least one control parameter for the control of a system parameter, in particular a target voltage for the voltage applied to a piezoelectric element (10, 20, 30, 40, 50, 60), in view of at least one systematic error occurring during a first control procedure of the system parameter to obtain a corrected control parameter for a second and/or a further control of the system parameter;

~~characterized in that~~ wherein an offset is determined for each of top-closed position, up-open position and down-open position of the piezoelectric elements (10, 20, 30, 40, 50 and 60).

9. (Currently Amended) Method ~~as according to claim 1,~~ for controlling system parameters, in particular for controlling the voltage applied to piezoelectric elements (10, 20, 30, 40, 50, 60) within a circuit (A) for charging and discharging piezoelectric elements (10, 20, 30, 40, 50, 60), comprising modifying at least one control parameter for the control of a system parameter, in particular a target voltage for the voltage applied to a piezoelectric element (10, 20, 30, 40, 50, 60), in view of at least one systematic error occurring during a first control procedure of the system parameter to obtain a corrected control parameter for a second and/or a further control of the system parameter;

~~characterized in that~~ wherein an offset is stored as long as a corresponding position of the piezoelectric elements (10, 20, 30, 40, 50 and 60) is not used.

10. (Currently Amended) Apparatus, ~~characterized in that~~ comprising:

- a) modification means (A, E, D) for the modification of system parameters according to at least one control parameter;
- b) measuring means (E, D; 600, 610) for the measurement of the value of the resulting system parameter;
- c) comparison means (E, D) for the comparison of the measured value to a predefined target value; and
- d) calculation means (D) for the calculation of at least one control parameter for a further modification of the system parameter in accordance with differences occurring between the measured value and the target value are implemented within the apparatus.

11. (New) Method for controlling a voltage applied to a piezoelectric element within a circuit for charging and discharging the piezoelectric element, comprising:

modifying a target voltage for the voltage applied to the piezoelectric element in view of a deviation of the voltage applied to a piezoelectric element from a target voltage occurring during a first control procedure to obtain the target voltage for a second and/or a further control of the voltage applied to the piezoelectric element.

---